Sterling Middle School Scope and Sequence
Internal Document

MATH

Block 1: Identity & Character	
Central Concepts	**Supporting Concepts**
o Chapter 1 | Integers o Chapter 2 | Rational Numbers o Chapter 8 | Circles and Area	o 1.1 | Integers and Absolute Value o 1.2 | Adding Integers o 1.3 | Subtracting Integers o 1.4 | Multiplying Integers o 1.5 | Dividing Integers o 2.1 | Rational Numbers o 2.2 | Adding Rational Numbers o 2.3 | Subtracting Rational Numbers o 2.4 | Multiplying and Dividing Rational Numbers o 8.1 | Circles and Circumference o 8.2 | Perimeters of Composite Figures o 8.3 | Area of Circles
Central Question(s)	**NC State Standards Alignment**
Chapter 1 | Integers How can you use integers to represent the velocity and the speed of an object? Is the sum of two integers positive, negative, or zero? How can you tell? How are adding integers and subtracting integers related? Is the product of two integers positive, negative, or zero? How can you tell? Is the quotient of two integers positive, negative, or zero? How can you tell? **Chapter 2 | Rational Numbers** How can you use a number line to order rational numbers? How can you use what you know about adding integers to add rational numbers? How can you use what you know about subtracting integers to subtract rational numbers? Why is the product of two negative rational numbers positive? **Chapter 8 | Circles and Area** How can you find the circumference of a circle? How can you find the perimeter of a composite figure? How can you find the area of a circle? How can you find the area of a composite figure?	o Integers | 7.NS.1, 7.NS.2, 7.NS.3 o Rational Numbers | 7.NS.1, 7.NS.2, 7.NS.3 o Circles and Area | 7.G.4, 7.G.6

Block 2: Systems & Organizations	
Central Concepts	**Supporting Concepts**
- Chapter 9 | Surface Area and Volume - Chapter 3 | Expressions and Equations - Chapter 4 | Inequalities	9.1 | Surface Area of Prisms 9.2 | Surface Area of Pyramids 9.3 | Surface Area of Cylinders 9.4 | Volumes of Prisms 9.5 | Volumes of Pyramids 3.1 | Algebraic Expressions (7.EE..1, 7.EE.2) 3.2 | Adding and Subtracting Linear Expressions (7.EE.1, 7.EE.2) 3.3 | Solving Equations Using Addition or Subtraction (7.EE.4a) 3.4 | Solving Equations Using Multiplication or Division (7.EE.4a) 3.5 | Solving Two-Step Equations (7.EE.4a) 4.1 | Writing and Graphing Inequalities (7.EE.4b) 4.2 | Solving Inequalities Using Addition or Subtraction (7. EE.4b) 4.3 | Solving Inequalities Using Multiplication or Division (7. EE.4b) 4.4 | Solving Two-Step Inequalities (7. EE.4b)
Central Question(s)	**NC State Standards Alignment**
Chapter 9 | Surface Area and Volume How can you find the surface area of a prism? How can you find the surface area of a pyramid? How can you find the surface area of a cylinder? How can you find the volume of a prism? How can you find the volume of a pyramid? **Chapter 3 | Expressions and Equations** How can you simplify an algebraic expression? How can you use algebra tiles to add or subtract algebraic expressions? How can you use algebra tiles to solve addition or subtraction equations? How can you use multiplication or division to solve equations? How can you use algebra tiles to solve a two-step equation? **Chapter 4 | Inequalities** How can you use a number line to represent solutions of an inequality? How can you use addition, subtraction, multiplication, or division to solve an inequality? How can you use an inequality to describe the dimensions of a figure?	- Surface Area and Volume | 7.G.3, 7.G.4, 7. G.6 - Expressions and Equations | 7.EE..1, 7.EE.2, 7.EE.4a - Inequalities | 7.EE.4b

Block 3: Connections & Associations	
Central Concepts	**Supporting Concepts**
o Chapter 5 | Ratios and Proportions o Chapter 6 | Percents	o 5.1 | Ratios and Rates o 5.2 | Proportions o 5.3 | Writing Proportions o 5.4 | Solving Proportions 5.5 | Slope o 5.6 | Direct Variation o 6.1 | Percents and Decimals (7.EE.3) o 6.2 | Comparing and Ordering Fractions, Decimals, and Percents (7.EE.3) o 6.3 | The Percent Proportion (7.RP.3) o 6.4 | The Percent Equation (7.RP.3, 7.EE.3) o 6.5 | Percents of Increase and Decrease (7.RP.3) o 6.6 | Discounts and Markups (7.RP.3) o 6.7 | Simple Interest (7.RP.3)
Central Question(s)	**NC State Standards Alignment**
Chapter 5 | Ratios and Proportions How do rates and proportions help you describe or solve real-life problems? How can proportions help you decide when things are "fair"? How can you use ratio tables and cross products to solve proportions? How can you compare two rates graphically? How can you use a graph or equation to show the relationship between two quantities that vary directly? **Chapter 6 | Percents** How does the decimal point move when you rewrite a percent as a decimal and when you rewrite a decimal as a percent? How can you order numbers that are written as fractions, decimals, and percents? How can you use models to estimate percent questions? How can you use an equivalent form of the percent proportion to solve a percent problem? What is a percent of decrease or percent of increase? How can you find discounts and selling prices? How can you find the amount of simple interest earned on a savings account? How can you find the amount of interest owed on a loan?	o Percents | 7.EE.3, 7.RP.3

Block 4: Explorations & Discoveries	
Central Concepts	**Supporting Concepts**
o Chapter 7 | Construction and Scale o Chapter 10 | Probability and Statistics	o 7.1 | Adjacent and Vertical Angles (7.G.5) o 7.2 | Complementary and Supplementary Angles (7.G.5) o 7.3 | Triangles (7.G.2, 7.G.5) o 7.4 | Quadrilaterals (7.G.2) o 7.5 | Scale Drawings (7.G.1) o 10.1 | Outcomes & Events o 10.2 | Probability o 10.3 | Experimental & Theoretical Probability o 10.4 | Compound Events o 10.5 | Independent & Dependent Events o 10.6 | Samples & Populations o 10.7 | Comparing Populations
Central Question(s)	**NC State Standards Alignment**
Chapter 7 | Construction and Scale What can you conclude about the angles formed by two intersecting lines? How can you classify two angles as complementary or supplementary? How can you construct triangles? How can you classify quadrilaterals? How can you enlarge or reduce a drawing proportionally? **Chapter 10 | Probability and Statistics** In an experiment, how can you determine the number of possible results? How can you describe the likelihood of an event? How can you use relative frequencies to find probabilities? How can you find the number of possible outcomes of one or more events? What is the difference between dependent and independent events? How can you determine whether a sample accurately represents a population? How can you compare data sets that represent two populations?	o Construction and Scale | 7.G.5, 7.G.2, 7.G.1 o Probability and Statistics | 7.SP.1, 7.SP.2, 7. SP.3, 7.SP.4, 7.SP.5, 7.SP.6, 7.SP.7, 7.SP.8